Administrative Systems Roadmap
2011 – 2013+

IT Governance Committee
May 11, 2011
Administrative Systems, in partnership with our customers, is charged with providing enterprise administrative business systems that make it easy for the MIT community to do its work.

Our vision is to provide an administrative business system worthy of MIT, achieved by implementing high-impact, customer-facing functionality with an enhanced user experience, on an extensible, maintainable, standard technical and infrastructure platform.
The administrative systems roadmap is a 3-year plan to advance the goal of an administrative business system worthy of MIT in the 21st century by:

- Adding new services and business functionality
- Enhancing the user experience
- Assuring long-term sustainability and reliability
- Reducing the time to delivery and cost of maintenance

The Administrative Systems roadmap includes recent-year efforts to gather business and technology direction, including:

- Institute-wide Planning Task Force
- Administrative Systems Policy and Coordinating Council (ASPCC)
- Business offices vision and system needs
- SAP functional, technology, and landscape assessments
- Setting a technology strategy for the technology roadmap
- ASPCC Executive Sessions
Guiding Principles

Standardization
We will limit customization to only what is absolutely necessary. We will embrace the 80/20 rule.

Sustainability
Our solutions should look toward the future, adhere to technology standards, be highly configurable and flexible systems to adapt to changes in policy and practices, and require as little ongoing maintenance as possible.

Extensibility
We will deliver templates and standard solutions where possible that are capable of being extended broadly for similar needs.

Integration
We will consider the effects of our decisions on other components and modules that are in use or planned for use at MIT.

Usability
We will develop a model that will enhance the user experience and help the MIT community conduct its business as easily as possible.

Best Practices
We will adopt best practices in our process improvement and data management wherever possible.

Use Existing Solution Capabilities
We will shorten time to solution delivery and lower total cost of ownership.

Strong Internal Controls
We shall deliver systems that are capable of meeting the organization’s objectives for protecting and ensuring reliability of processes, data and systems.
Digital evolution in MIT (Digital MIT)
Create efficiencies in business processes by replacing paper with automation and online self service and workflow, where beneficial and appropriate, to modernize, meet community expectations, and reduce environmental impact.

Intuitive User Experience
Provide a consistent, coherent, unified, customer-centric view between and among processes and information to provide system integration efficiencies and support a seamless, intuitive user experience.

Simplify Business Processes
Streamline practices where meaningful to reduce inefficiencies and handoffs, and allow for simpler user-to-system interactions.

De-customization
Use standard structure and components for new and replacement software to lay a foundation for system sustainability, reduce technology risk, permit extensibility, and enable more efficient ongoing operational support.

Legal / Regulatory Compliance
Apply necessary changes to ensure compliance with all legal and regulatory mandates.

Improved Reporting & Analytics
Provide data infrastructure, data management, and reporting tools to enable simplified, consistent, and efficient access to information.

Strategic Objectives
Foundational: The applications or components that apply broadly across the system or to multiple functional areas of administrative systems. Requirements are driven by the business offices and end users, while the technology solutions are the responsibility of IS&T.

Infrastructure: The back-end platforms and tools for developing and managing administrative systems. Requirements and solution decisions are the responsibility of IS&T.
Process Modernization
- Modernize
- Digitize
- De-customize
- Create processes that are more standard, but tailored to meet customer needs

Digital MIT
- Paperless solutions
- Information on demand through electronic document management systems
- Web-based platform for reporting and financial forecasting
- Streamline MIT’s budget process

Procurement
- Wider adoption of electronic procurement tools
- Electronic invoicing and reimbursement
- Vendor management system

| Work streams     | Description (partial list)                                                                                                                                                                                                 | • Recognize and manage 3 distinct work streams  
• Dedicate staff to specific work stream  
• Broden MIT expertise  
• Augment MIT staff with external resources, including “exceptional experts” |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Day to Day       | • Run daily, weekly, yearly jobs  
• Run interfaces in/out and address exceptions  
• Reconcile  
• Produce reports  
• System backups & operations  
• Maintain servers, storage  
• Performance  
• System monitoring                                                                                                                      | • 2 Year initiative to improve Day-to-Day Operations:  
  o Clarify Roles & Responsibilities  
  o Improve/automate batch job scheduling  
  o Improve/automate interfaces  
  o Expand automated monitoring                                                                                                             |
| Operations       |                                                                                                                                                                                                                           | • Establish on-going Day-to-Day operations support structure, appropriately skilled, with automated tools |
| Support &        | • Fix things that don’t work  
• Provide help  
• Analyze problems  
• Prioritize  
• Support packs  
• Open enrollment  
• Etc…                                                                                                                                     | • 1 Year initiative to reduce backlog to reasonable/target level  
• Simplified support and enhancement resolution process  
• Establish on-going Support and Enhancement core team with responsibility and authority to effectively manage process |
| Enhancements     |                                                                                                                                                                                                                           |                                                                                                  |
| Projects         | • Pension, RFP 1.1, APR, Global, EL, Hourly Student Feed, …  
• Bundled releases of enhancements, …                                                                                                       | • Mandatory Prototyping  
• Transition plan from projects to day to day support  
• Plan project portfolio and resource allocation                                                                                           |
Transform Operating Model

Day to Day Operations
Support & Enhancements
Projects

QA
VPF
R/3 Admin
Usability
Admin Sys
Devel opers
Data Mgt
Other
Train ing

Support & Enhancements
Projects
Day to Day Operations
R/3 Admin
Train ing
Other
Usability
Data Mgt
HR
<table>
<thead>
<tr>
<th>FY2011</th>
<th>FY2012</th>
<th>FY2013+</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Web Development</strong></td>
<td>Display Req prototype</td>
<td>Web app migration strategy</td>
</tr>
<tr>
<td><strong>User Gateway</strong></td>
<td>Gateway proof of concept</td>
<td></td>
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<tr>
<td><strong>Batch Operations</strong></td>
<td>Discovery</td>
<td>Migrate jobs to new job scheduler</td>
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<tr>
<td><strong>Infrastructure Monitoring</strong></td>
<td>Extend use of standard tools</td>
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<tr>
<td><strong>Interfaces</strong></td>
<td>Middleware discovery</td>
<td></td>
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<tr>
<td><strong>Servers/Infrastructure (Landscape)</strong></td>
<td>Assess -ment</td>
<td>Implement environment / client strategy</td>
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<tr>
<td><strong>Document Management</strong></td>
<td>Document attachment discovery in APR</td>
<td>Upgrade</td>
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Transform Technology Foundation
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<thead>
<tr>
<th>Work</th>
<th>Sponsor</th>
<th>Current Phase</th>
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<tbody>
<tr>
<td>APR</td>
<td>VPF</td>
<td>Discovery</td>
</tr>
<tr>
<td>Pension Outsourcing</td>
<td>HR</td>
<td>Development</td>
</tr>
<tr>
<td>Global Initiatives</td>
<td>VPF</td>
<td>Discovery</td>
</tr>
<tr>
<td>Digital Feeds</td>
<td>VPF</td>
<td>Discovery</td>
</tr>
<tr>
<td>Enterprise Learning</td>
<td>HR/EHS/OSP</td>
<td>Implementation</td>
</tr>
<tr>
<td>Digital Statements</td>
<td>VPF</td>
<td>Implementation</td>
</tr>
<tr>
<td>RFP</td>
<td>VPF</td>
<td>Discovery</td>
</tr>
<tr>
<td>Procure-to-Pay</td>
<td>VPF</td>
<td>Discovery</td>
</tr>
<tr>
<td>Reporting &amp; Forecasting Tool (RAFT)</td>
<td>VPR</td>
<td>Development</td>
</tr>
<tr>
<td>Cognos (Framework &amp; Reporting)</td>
<td>IS&amp;T</td>
<td>Proof of Concept</td>
</tr>
<tr>
<td>eDACCA</td>
<td>VPF</td>
<td>Discovery</td>
</tr>
<tr>
<td>Organizations Relationships</td>
<td>VPF</td>
<td>Not Started</td>
</tr>
<tr>
<td>Compensation Management</td>
<td>HR</td>
<td>Not Started</td>
</tr>
<tr>
<td>Performance Management</td>
<td>HR</td>
<td>Not Started</td>
</tr>
<tr>
<td>Mobile devices for Repair and Maintenance</td>
<td>Facilities</td>
<td>Not Started</td>
</tr>
</tbody>
</table>

**Business Links to Technology**

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Projects

Pension Recordkeeping Outsourcing
Request for Payment 1.1
Enterprise Learning
Digital Feeds - Hourly Student Appointments
Appointment Process Redesign
Reporting and Forecasting Tool (RAFT)
Global Initiative
Vendor Management System Pilot
Cognos Framework and Reporting
Cost Accounting for Institute Buildings
Technology Initiatives
In summary

• We recognize current systems and service delivery model results in insufficient progress for MIT
• Evolve foundational, infrastructure, delivery model, and projects that meet MIT’s needs
• Administrative solutions that exceed expectations, are delivered faster and more efficiently

Next Steps

• Complete staffing model/plans
• Determine which projects will go forward (6-12 months)
• Update roadmap
• Review and gain ASPCC approval for updated roadmap
• Present revised roadmap to IT Governance Committee

Conclusion
<table>
<thead>
<tr>
<th>Area</th>
<th>Current State</th>
<th>Vision</th>
</tr>
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</table>
| Web Development      | • Customized development.  
• Multiple development technologies.  
• Multiple skill sets required.  
• Some technology out of support. | • Adopt SAP strategy for user interface development (Web Dynpro ABAP).  
• Reduced delivery time for new functions, and skill sets required to develop and support web apps. |
| User Gateway         | • Multiple access points: SAPweb, SAPweb Self Service, insideMIT portal, SAP portal.  
• Outdated strategy unable to take advantage of new handheld devices. | • Fewer access points, gateways, portals; more consistent customer-centric user experience.  
• Updated technology.  
• Limited customization. |
| Batch Operations      | • 1,650 batch daily jobs per day scheduled, event driven, or ad hoc.  
• Batch jobs manually run in some areas  
• Distributed ownership with inconsistent monitoring.  
• Lack of coordination managing batch processing loads on system.  
• Limited documentation. | • Centralized and streamlined batch job scheduling environment.  
• Improved capabilities to schedule jobs at a business process level and across system environments.  
• Manage system loads from central place.  
• Improved monitoring, audit, and reporting. Reliable service to customers and partners.  
• Central documentation repository with error & restart processes defined.  
• Clear batch job ownership and escalation path. |
| Infrastructure Monitoring | • Multiple tools, distributed monitoring.  
• Some manual monitoring.  
• Limited application level monitoring. | • Consolidated and/or central monitoring.  
• Automated recurring monitoring tasks. Ability to define and track performance metrics.  
• Timely responses to production outages and incidents.  
• Proactive maintenance and administration.  
• Complete documentation. |
## Current and Future Technical States

<table>
<thead>
<tr>
<th>Area</th>
<th>Current State</th>
<th>Vision</th>
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</thead>
</table>
| **Interfaces**                            | • 180+ point-to-point, individually maintained interfaces in/out of SAP from both internal providers (Data Warehouse, Coeus) and external (Bank of America, Fidelity, SciQuest).  
• 15-yr-old custom inbound (dropbox) and outbound solutions; one dropbox expert.  
• No dashboard functionality and no active monitoring. Some restart procedures, alerts are manual. Some interfaces executed manually.  
• Limited documentation.                                                                                                               | • Single, central repository to model, document, and define interfaces.  
• High performance, security.  
• Open standards for interoperability.  
• Reliable service to customers and partners.  
• Interface validation.  
• Clear alerts to take the correct action in the right context.  
• Clear ownership and procedures.  
• Ability to reroute feeds for testing.                                                                                                           |
| **Servers/Infrastructure (Landscape)**    | • Long refresh time delays projects; high Basis effort.  
• Significant staff effort.  
• Multiple environments (8 instances with full production data).  
• Ad hoc refreshes.  
• Custom scrambling programs.  
• Limited documentation.                                                                                                                   | • Landscape that applies industry best practices.  
• Fewer, consistent environments with easier, quicker upkeep and refresh.  
• Less manual maintenance effort.  
• Shorter support pack project duration.  
• Use of standard vendor data scrambling product.  
• Clear documentation.                                                                                                                     |
| **Document Management**                   | Multiple systems/applications for various levels of document management: Paper, IXOS, Optix.                                                                                                             | Web-accessible, central document management system as part of an enterprise-wide content management system that offers security, storage, retrieval, viewing, workflow, approval, integration, and archiving of documents. |
| **De-customization**                      | • Some core functions highly customized, restricting ability to leverage newer functionality.  
• Higher MIT support effort.                                                                                                               | • Less customization.  
• Use product capability.  
• Leverage vendor support.                                                                                                                  |
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<thead>
<tr>
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<th>Current State</th>
<th>Vision</th>
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<tbody>
<tr>
<td><strong>Workflow</strong></td>
<td>• Workflow is heterogeneous, using different technologies and platforms and solutions.</td>
<td>Configurable workflow solution that streamlines and automates processes, and permits ad hoc approvers.</td>
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<tr>
<td></td>
<td>• Largely non-hierarchical and manually maintained.</td>
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<tr>
<td><strong>Testing</strong></td>
<td>• Central test repository.</td>
<td>See QA Roadmap.</td>
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<tr>
<td></td>
<td>• Some tests automated.</td>
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<td><strong>Data &amp; Reporting</strong></td>
<td>See Data Roadmap.</td>
<td>See Data Roadmap.</td>
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<tr>
<td><strong>Mobile Computing</strong></td>
<td>See Mobile Roadmap.</td>
<td>See Mobile Computing Roadmap.</td>
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<tr>
<td><strong>Security</strong></td>
<td>• Certificates on shared devices potentially expose confidential information like paystubs, W2, 1099s.</td>
<td>See Security Roadmap.</td>
</tr>
<tr>
<td></td>
<td>• Challenges integrating MIT’s approach with 3rd party solutions (ex. Concur, SAP portal, etc. with Touchstone, Roles, Kerberos, etc.).</td>
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<td></td>
<td>• Granularity &amp; complexity of data access control (field level, across systems).</td>
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<td></td>
<td>• Reluctance to store certain data digitally or centrally because of security concerns (medical courses, animal care training, training on resume writing, etc.)</td>
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